We Claim:

1. An inkjet printhead chip that comprises

a substrate that incorporates drive circuitry;

a plurality of nozzle arrangements that are positioned on the substrate, each nozzle arrangement comprising:

a nozzle chamber wall and a roof wall positioned on the substrate to define a nozzle chamber, the roof wall defining an ink ejection port in fluid communication with the nozzle chamber;

an ink ejection member that is positioned in the nozzle chamber and is displaceable towards and away from the ink ejection port to eject ink from the ink ejection port; and

an elongate actuator that is fast, at one end, to the substrate to receive an electrical signal from the drive circuitry and fast, at an opposite end, with the ink ejection member, the actuator incorporating a heating circuit that is connected to the drive circuitry layer the heating circuit being positioned and configured so that, on receipt of, and termination of, a suitable electrical drive signal from the drive circuitry layer, the heating circuit serves to generate differential thermal expansion and contraction, respectively, such that the actuator is displaced to drive the ink ejection member towards and away from the ink ejection port, wherein

the drive circuitry is configured to generate a heating signal which is sufficient to heat the actuator, without generating movement, to an extent such that the ink is heated, prior to generating the drive signal.

2. A printhead chip as claimed in claim 1, in which the drive circuitry is configured to generate a series of pulses with pulses of a predetermined first duration defining heating signals and a series of pulses of a predetermined second duration defining drive signals.

3. A printhead chip as claimed in claim 1, which includes a number of temperature sensors that are connected to a temperature determination unit for detecting ink temperature and an ink ejection drive unit for determining whether or not preheating of the ink is required.

4. A printhead chip as claimed in claim 1, in which the drive circuitry is defined by CMOS circuitry positioned in the substrate, the CMOS circuitry incorporating control logic circuitry for each nozzle arrangement, which is connected to the heating circuit.

5. A printhead chip as claimed in claim 4, in which each control logic circuitry includes shift register circuitry for receiving a data input, transfer register circuitry that is connected to the shift register circuitry to generate a transfer enable signal and to latch the data input and to generate a firing phase control signal, and gate circuitry that is connected to the transfer register circuitry to be activated by the control signal to output a heating pulse which is received by the heating circuit.

6. A printhead chip as claimed in claim 1, in which each elongate actuator has a laminated structure of at least two layers, with one of the layers defining the heating circuit.

7. A printhead chip as claimed in claim 6, in which each elongate actuator has three layers in the form of a middle layer of a resiliently flexible, non-electrically conductive material, and a pair of opposite, substantially identical metal layers.